

REMARKS

Claim Rejections under Bridge – 35 USC 102

Regarding claims 1-10, although Applicants do not agree with the Examiner's interpretation of Bridge (U.S. Patent No. 6,125,368) Applicants have canceled claims 1-10 to move prosecution of the patent application to resolution.

Claim Rejections under Edwards– 35 USC 102

Edwards solves a different problem in a different manner than the present invention. Edwards provides a variety of watchpoint control in order to minimize the intrusion caused to the operation of microcomputer 50. Edwards does not address and teaches nothing about correlating time domains with each other when a plurality of different time domains are used on an integrated circuit.

Regarding claims 11-24 and 26-34, Applicants respectfully disagree with the Examiner's arguments. The Examiner cited FIG. 8 as teaching "a plurality of functional circuit modules". Edwards describes the circuitry in FIG. 8 as "dedicated comparing and triggering circuitry" for watchpoint triggering (Edwards, col. 17, lines 24-35). The Examiner then cited FIG. 10A, elements 200A-F as being the claimed functional circuit modules. However, Edwards described FIG. 10 as teaching one embodiment of microcomputer 50 including a set of watchpoints and chain latches, where 200A-F are a set of chain latches (Edwards, col. 18, lines 38-40 and 54-55). FIG. 9 shows "one example of such a latch" (Edwards, col. 18, lines 3-13). Edwards does NOT teach that the clock input 205 for any of chain latches 200A-F are "being clocked by a clock that represents a different time domain". Element 148 in FIG. 6D of Edwards is described as being a one bit field in action register 112 (see FIG. 4) (Edwards, col. 15, lines 65-67). Applicants have been unable to find anything in Edwards that teaches "a plurality of functional circuit modules, each functional circuit module being clocked by a clock that represents a different time domain and having timestamping circuitry". Although Edwards teaches a one bit field in a register for "enabling timestamp in trace message", Edwards does not teach the circuitry to do the timestamping, and Edwards does not teach a plurality of timestamping circuitry in each functional circuit modules, wherein each functional circuit module is clocked by a clock that represents a different time domain.

FIG. 10B, elements 180A-F illustrate comparator and triggering logic for each watchpoint (Edwards, col. 18, lines 49-50). Elements 180A-F as taught by Edwards are not

coupled to “each of the plurality of functional circuit modules” (remember, each of the of functional circuit modules is clocked by a clock that represents a different time domain). Elements 180A-F as taught by Edwards are the triggering circuits themselves that actually perform the compare and triggering of a watchpoint. The “interface module” in claim 11 provides “control information to the plurality of functional circuit modules”. Elements 112A-F in FIG. 10B of Edwards do provide watchpoint control information, but Edwards does not teach that this watchpoint information is provided to the “plurality of functional circuit modules” (remember, each of the of functional circuit modules is clocked by a clock that represents a different time domain). Claim 11 also states “the interface module receiving at least one timestamping message from a first time domain when the predetermined event occurs in one of a plurality of time domains including the first time domain”. Again Edwards does not even teach “a plurality of time domains”. And one of the important uses of the claimed invention is to handle integrated circuits that include a plurality of time domains.

“Timestamping is a useful technique that may be used in a system, such as, for example, in debugging a system, to indicate when a desired event occurred in the system. Some systems, including systems which are integrated on a single integrated circuit, include a plurality of time domains. For some applications, there may be no easy method for directly correlating time domains with each other and with time references external to the system.”

(Specification, page 1, lines 9-14)

Thus Edwards solves a different problem in a different manner than the present invention. Edwards provides a variety of watchpoint control in order to minimize the intrusion caused to the operation of microcomputer 50. Edwards does not address and teaches nothing about correlating time domains with each other when a plurality of different time domains are used on an integrated circuit.

The other independent claims and the dependent claims are allowable for at least the reasons given above.

The Office Action contains numerous statements characterizing the claims, the Specification, and the prior art. Regardless of whether such statements were addressed by Applicants, Applicants refuse to subscribe to any of these statements, unless expressly indicated by Applicants.

Applicants believe the application is in condition for allowance which action is respectfully solicited. Please contact Susan C. Hill if there are any issues regarding this communication or the current Application.

Respectfully submitted,

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